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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/538,473
Filing Date: June 07, 2005
Appellant(s): NARBESHUBER ET AL.

James J. Kelly
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 9/05/2008 appealing from the Office action mailed 11/23/07.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct. Amendment to claims filed 2/25/08 has been entered.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

2004/0010161 A1	Maas et al.	1-2004
WO 99/05241	Scheibel et al.	2-1999

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 8 and 10-14 should be rejected under 35 U.S.C. 103(a) as being obvious over Maas et al. (US 20004/0010161 A1) in view of Scheibel et al. (WO 99/05241).

Scope of prior art

Maas et al teach a process for preparation of alkylarylsulfonates (see abstract). Steps a-e (abstract) of the process described by Maas et al. corresponds to steps a-e of claim 8 and of 9. The limitations of claim 14 are met by claim 6 of Maas et al.

Ascertaining the difference

Maas et al teach the process of the instant invention, however they fail to provide an example where all of the limitations of the instant claims are present. The said limitation are:

- In step b of claim 8, removal 90% or more of lower boiling constituents of C_{10}-C_{12} olefins, which are di- or poly-branched.

- In claims 12 and 13 the applicant claims degree of branching from 1-2.5 (claim 12) and 1-2.0 (claim 13).

Secondary reference

Scheibel et al teach that highly branched alkylbenzenesulfonate surfactants were found to be poorly biodegradable (page 1, Background of the invention, lines 1-3). They also teach that linear alkylbenzenesulfonate surfactants suffer from limitations pertaining to the scope of their utility particularly in hard water and cold water cleaning properties (Page 1, Background of the Invention lines 8-10).

Obviousness

The issue at hand is whether one of ordinary skill in the art would have motivation to remove the higher branched C_{10}-C_{12} olefins from the mixture produced in step (b) as described by Maas. Scheibel et al. provide motivation when they describe the poor biodegradability of the highly branched alkylbenzenesulfonate surfactants. In order to improve biodegradability of the surfactants taught by Maas et al. one of ordinary skill in the art would have been motivated to modify the process of Maas et al to remove the higher boiling C_{10}-C_{12} olefins prior to alkylation of the aromatic hydrocarbons.

The degree of branching as claimed in the instant claims 12 and 13 is obvious. Maas et al. teach optional addition of linear olefins prior to the reaction with aromatic hydrocarbon (step c). The degree of branching can easily be adjusted to the desired composition by regulating how much linear olefins are added in step (c). Alternatively, one of ordinary skill in the art practicing the invention of Maas et al while removing the

highly branched olefins as suggested by Scheibel et al, would expect the degree of branching to be the same as instantly claimed.

(10) Response to Argument

Note:

On page 8, lines 8-9 of the Appeal brief, Appellant argues: "Therefore, a person of ordinary skill in the art **would have** from Scheibel et al. the teaching of or the motivation for removing di- or polybranched compounds…" (emphases added) Examiner believes this to be a typo. If Appellant believes a person of ordinary skill would find motivation in Scheibel et al, then the Examiner is in complete agreement with that statement and applicant has no grounds to traverse the rejection. The appeal brief only makes sense if the Appellant meant to say that "one skilled in the art **would not have** from Scheibel et al the teaching of or the motivation". For the purpose of this action, Examiner will assume that the Appellant is not in agreement with the grounds of rejection and that the argument in the Appeal Brief is to indicate that Scheibel et al. do not provide motivation to modify the process of Maas et al.

On pages 4-8 of the argument, the Appellant argues that Scheibel et al. fail to provide motivation removal of di- or polybranched olefins from the mixture of olefins prepared by dimerization step (step "b", of the instant claims; also corresponds to step

"b", of Maas et al.). To support the argument, Appellant sites procedural examples and preferred embodiments of the invention of Scheibel et al.

1) The document by Scheibel et al is only used to provide a general teaching that is it desirable to remove highly branched alkylbenzenesulfonate surfactants (note: alkylbenzenesulfonates are a subgroup of alkylarylsulfonates that is referred to in Maas et al. i.e. benzene = aryl) from a mixture and that linear alkylbenzenesulfonate have limitations. If one is to follow the general teaching of Scheibel et al., one comes to the conclusion that what is desirable are non-highly branched compounds. The process of Scheibel et al. (which Appellant argues in detail on pages 4-7 of the appeal brief) is irrelevant to the rejection of record because it is only the teaching of unfavorable qualities of the undesired highly branched surfactants that is relevant.

2) Maas et al. teach almost identical method of preparing alkylarylsulfonates as is claimed in the instant claim 8. The only difference between Maas et al and the instant claims is that Maas et al. do not remove lower boiling components in step "b".

3) One skilled in the art would appreciate that "lower boiling components" referred to by the applicants in claim 8, step "b" are in fact the "highly branched" components as Scheibel et al. call them. It is well known to those skilled in the art that as the amount of branching is increased, the boiling point is decreased, therefore highly branched = lower boiling.

4) One skilled in the art would therefore be motivated by the teaching that the highly branched alkylarylsulfonates are poorly biodegradable, to remove these highly branched alkylarylsulfonates from the composition. The expected result of doing so

would be a surfactant with improved biodegradability, which is what the Appellant alludes to as being the improvement in the surfactants prepared by the instantly claimed method (see Appeal Brief page 7, paragraph 2).

5) In conclusion, the instant claims should be rejected. A person of ordinary skill in the art wishing to practice the invention of Maas et al. would be motivated to remove the highly branched (lower boiling) components in order to improve biodegradability as suggested by Scheibel et al.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Yevgeny Valenrod/

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